

Sintesis senyawa bioaktif diaril pentanoid analog pigmen kurkumin dengan bantuan katalis ramah lingkungan Fe₃O₄-ACE = Synthesis of bioactivated compound diaryl pentanoid analog curcumin pigment with the green catalyst Fe₃O₄-ACE

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Abstrak

ABSTRAK

Sintesis senyawa diarilpentanoid analog kurkumin dilakukan melalui reaksi Kondensasi Aldol dari aldehid aromatik dengan senyawa keton aromatik menggunakan katalis ramah lingkungan Fe₃O₄-ACE. Kondisi reaksi optimum pada suhu ruang, dengan jumlah katalis 20 berat, selama 2 jam dalam pelarut etanol. Identifikasi senyawa dilakukan dengan menggunakan spektrofotometer UV-Vis, FTIR, dan GC-MS. Senyawa 1 dan 2 yang dihasilkan memiliki nilai persen rendemen sebesar 51,58 dan 88,20 . Katalis Fe₃O₄-ACE diidentifikasi dengan XRD, SEM, PSA, dan FTIR.

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ABSTRACT

The synthesis of curcumin analogue diarylpentanoid compounds was carried out by the Aldol Condensation reaction of the aromatic aldehyde cinnamaldehyde with the aromatic ketone compound acetophenone using the environmentally friendly Fe₃O₄ ACE catalyst. The optimum reaction conditions at room temperature, with a catalyst amount of 20 weight, for 2 hours in ethanol. The identification of compounds was performed using UV Vis, FTIR, and GC MS spectrophotometers. Compound 1 and 2 have the percent yield of 51,58 and 88,20. The Fe₃O₄ ACE catalyst was identified by XRD, SEM, PSA, and FTIR.